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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,064	01/29/2002	Tatsuo Nakajima	100725-00070	3685
4372	7590	03/31/2011		
ARENT FOX LLP 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			EXAMINER HOOK, JAMES F	
			ART UNIT 3754	PAPER NUMBER
			NOTIFICATION DATE 03/31/2011	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DCIPDocket@arentfox.com  
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Patent\_Mail@arentfox.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/058,064	<b>Applicant(s)</b> NAKAJIMA ET AL.	
	<b>Examiner</b> James F. Hook	<b>Art Unit</b> 3754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/7/11</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added subject matter to claims 1, 2, 7, and 8 with regards to “a single” circumferential reinforced fiber sheet is considered new matter where the specification does not set forth that only a single sheet is used, and as per [0056] of the application’s PreGrant Publication states that there are fiber sheets inside and outside which is more than a single sheet, and [0046] states that the FRP layers are stacked which suggests more than one sheet as well, therefore there is no support in the application that only a single sheet is used which makes this language new matter.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 6 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yates (626). The patent to Yates discloses the recited plastic pipe comprising a fibrous layer which can be formed in various angles including an angle of 0 degrees with the longitudinal axis where the reinforcement is made of a plurality of bundles of one of many different fibers or mixtures thereof where the fibers can be glass or carbon fibers having various modulus of elasticity which fall within the recited range of claim 3, further an reinforced fiber sheet can be provided as set forth in column 5, lines 13-19, and the thickness of these layers can be seen to be within the claimed range of claim 6 as set forth in examples I and II, where the pipe can be formed by a pultrusion method, and the outer layer 4 can be seen to have fibers running circumferentially around the shaft. With respect to Yates reinforcement bundles the references incorporated by reference to Ram (950 and 520) and Clarke set forth how the fibers and bundles thereof are formed for the invention of Yates, where for example Ram 950 clearly sets forth in column 3, lines 37-50 that the fibers forming the bundles are formed using wet or dry spun methods, in column 3, line 66 to column 4, line 5 that the filaments making up the multifilament yarn are imparted with a twist to improve handling characteristics. However, the recited "pultrusion" limitation is merely setting forth process steps in article claims and therefore are setting forth product-by- process claims, where such would hold little patentable weight on the article structure of the final article, especially when the article of the prior art is either

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identical or only slightly different than the product claimed in the product-by-process claims, where the Patent Office is not equipped to manufacture products by a myriad of processes put before it and then obtain prior art products and make physical comparisons therewith (*In re Brown*, 459 F.2d 531 (CCPA 1972)). Therefore, it appears that the pultrusion process would not result in a product that is different than the article of Yates, especially when Yates appears to support using some form of pultrusion and spinning of fibers, however, should this be found not to be the case then it would have been obvious to one skilled in the art to use merely routine experimentation with these known methods to optimize the strength of the article especially when it is desired that such have a certain amount of strength to function for its intended use. However, as set forth in *In re Thorpe*, 777 F.2d 695 (Fed. Cir. 1985), sets forth that the patentability of a product does not depend on its method of production. Also, *In re Dike*, 394 F.2d 584, 589 (CCPA 1968) it was held that the product itself is not patentably distinguished over the prior art, and process limitations cannot impart patentability to it, and further the USPTO bears a lesser burden of proof in making out a prima facie case of obviousness in a product-by-process situation because of its peculiar nature. *Fessman*, 489 F.2d at 744. Therefore, Yates does set forth at least a prima facie obvious article that is identical or at least only slightly different from the product as claimed by appellant in the product-by-process claims in that the same structure is set forth with respect to a fiber bundle aligned in the longitudinal direction and provided with a circumferential fiber sheet provided at least either on an outer surface or an inner surface layer thereof,

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where the elasticity falls within the range set forth by claim 3, and a thickness within the range set forth in claim 6.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 stand rejected under 35 U.S.C. 103(a) as being obvious over Nakajima in view of Yates (626). The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For

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applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2). The patent to Nakajima discloses the recited fiber reinforced plastic pipe formed of a longitudinally slit sleeve which can be placed within a drive shaft, where the sleeve is made by pultrusion, the fibers are parallel and can run longitudinally, a plurality of layers can be provided, the sleeve can be held in by adhesive, various pipe thicknesses are disclosed, and the fibers are known to be as strong as those set forth in Yates and would therefore inherently have the same elasticity, where the process steps of “pultrusion” is setting forth merely a method step in an article claim thereby resulting in a product-by-process claim, where the product is only slightly different from the product claimed, but the difference is provided by the reference to Yates below. The patent to Nakajima discloses all of the recited structure with the exception of forming the reinforcing fibers into bundles, forming the extra layers as sheets, and some of the specific properties of the extra layers, however it is considered an obvious choice of mechanical expedients to form the extra layers of any specific elasticity and basis weight using routine experimentation to arrive at optimum values as such only requires routine skill in the art. It would have been obvious to one skilled in the art to modify the fibers in Nakajima to be formed of bundles and to form the extra layers as sheets circumferentially disposed as suggested by Yates as such would provide for a stronger sleeve that would be more resistant to shock and provided with greater reinforcement.

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However, the recited "pultrusion" limitation is merely setting forth process steps in article claims and therefore are setting forth product-by-process claims, where such would hold little patentable weight on the article structure of the final article, especially when the article of the prior art is either identical or only slightly different than the product claimed in the product-by-process claims, where the Patent Office is not equipped to manufacture products by a myriad of processes put before it and then obtain prior art products and make physical comparisons therewith (*In re Brown*, 459 F.2d 531 (CCPA 1972)). Therefore, it appears that the pultrusion process would not result in a product that is different than the article of Nakajima as modified, especially when Nakajima appears to support using some form of pultrusion. However, as set forth in *In re Thorpe*, 777 F.2d 695 (Fed. Cir. 1985), sets forth that the patentability of a product does not depend on its method of production. Also, *In re Dike*, 394 F.2d 584, 589 (CCPA 1968) it was held that the product itself is not patentably distinguished over the prior art, and process limitations cannot impart patentability to it, and further the USPTO bears a lesser burden of proof in making out a prima facie case of obviousness in a product-by-process situation because of its peculiar nature. *Fessman*, 489 F.2d at 744. Therefore, it is held that the limitation of "pultrusion" is merely a method step as argued by appellant and thereby set forth a product-by-process claim where as set forth above when there is little or no difference in final structure of the article has little patentable weight over the prior art, especially when as discussed above Nakajima teaches essentially the same structure with only one difference, that being the fibers being used being provided in bundles which is taught by Yates, and it is not considered that the



process would result in an article that is different in structure than the Nakajima article once modified, and as set forth above, with a lack of detail as to how these steps are performed, it is not clear how the method can result in an article that is different from the prior art article.

### ***Response to Arguments***

Applicant's arguments filed February 7, 2011 have been fully considered but they are not persuasive. with respect to Yates, one of Yates' layers is circumferential and forms a single circumferential layer, and the rest of the layers make up the pipe structure being claimed, therefore Yates is still teaching a single circumferential layer as required by the claims. With respect to the Nakajima reference, the Yates reference is used to modify Nakajima and it appears the arguments are that Yates fails to teach at least a single circumferential layer, however, Yates is used to teach forming bundles and circumferentially disposing at least one layer of a plurality of layers for a reinforcement of a pipe structure which Yates does.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references to Noland and McClain disclosing state of the art reinforced plastics and drive shafts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James F. Hook whose telephone number is (571) 272-4903. The examiner can normally be reached on Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James F. Hook/  
Primary Examiner, Art Unit 3754

JFH